

REMARKS

Favorable reconsideration of the pending claims is respectfully requested in view of the above amendments and following remarks. Following the amendments, claims 2-5, 10, 17, 19, 20 and 22-28 are pending in the application, with claims 19 and 20 being in independent format.

Applicants wish to thank the Examiner for the helpful telephone interview with their representative, Janet Sleath, on May 16, 2011.

Independent claims 19 and 20 have been amended to recite devices including a rotatable torque tube connected at a proximal end to a drive system and at a distal end to a working head. Claim 19 has also been amended to correct a minor typographical error. Claim 28 has been added. Newly added claim 28 depends on claims 19 and 20, and is drawn to a device wherein the operating head is a cutting head. Support for these amendments can be found, for example, in paragraphs 0061-0063 of the published application, and throughout the specification as originally filed. It is urged that none of the amendments constitute new matter or raise new issues for consideration.

Applicants specifically reserve the right to pursue claims to any subject matter that may have been cancelled from the claims by the above amendments in one or more related applications.

Objections to the Claims

The Examiner objected to claim 19 as containing a misplaced dash. This has been corrected.

Claim rejections under 35 USC §102

Claims 2-5, 10, 17, 19, 22-24, 26 and 27 stand rejected under 35 USC §102(b) as being anticipated by US Patent 6,080,170 to Nash et al. This rejection is respectfully traversed.

Following the above amendments, independent claims 19 and 20 are drawn to devices including a rotatable torque tube operably connected at a proximal end to a drive system for rotation and at a distal end to a working head; a stationary liner that surrounds the torque tube and terminates distally at an intersect area located proximal to the distal end of the torque tube (*i.e.* proximal to the working head); and a liquid flood space located between the liner and the

torque tube, whereby liquid infused into the flood space during operation of the device exits the flood space at the intersect area.

The Examiner asserts that Nash et al. disclose an atherectomy device “including a liner (34) surrounding a rotatable torque tube (combination of elements 308, 310, 32”) to define a “liquid flood space” between the two tubular components through which fluid is infused”, and further that the “liner (34) terminates proximally to the distal end (32”) of the rotatable torque tube at an intersect area (near 304)”. Applicants respectfully disagree with the Examiner’s interpretation of the Nash et al. disclosure.

Nash et al. clearly state that element 32” is a rotary working head (col. 19, lines 1-5), element 308 is a drive cable that rotates working head 32” (col. 21, lines 35-37) and, furthermore, that the “distal end helices of the drive cable 308 are welded at 310 to the shank portion of the rotary working head 32” (col. 21, lines 42-44). Thus Nash et al. teach that the drive cable terminates at 310. As noted by the Examiner, and as shown in Fig. 12 of Nash et al., fluid exits the Nash et al. device through radial passageway 304. However, this passageway is located distal to the distal end of drive cable 308 and is therefore not located proximal to the distal end of a torque tube as recited in the presently pending independent claims. Similarly, Fig. 10 of Nash et al. illustrates fluid exiting the device at both the proximal and distal ends of working head 32”, however neither of these two locations are proximal to the distal end of drive cable 308. Thus Nash et al. do not teach or suggest all the features of independent claims 19 and 20. Furthermore, the reference does not teach or suggest a structure that would be effective in providing an air-tight, substantially friction-free, seal around a rotating torque tube as disclosed and claimed in the present application.

It is urged that Nash et al. do not teach or suggest the presently claimed subject matter and that the rejection of claims 2-5, 10, 17, 19, 22-24, 26 and 27 under 35 USC §102(b) can thus be properly withdrawn.

Claim rejections under 35 USC §103

Claim 25 stands rejected under 35 USC §103(a) as being unpatentable over Nash et al., either alone or in combination with US Patent 6,258,052 to Milo et al. This rejection is respectfully traversed.

The teachings of Nash et al. are discussed above. As discussed in the Amendment and Reply filed on April 26, 2011, Milo et al. disclose a guidewire for crossing vascular occlusions comprising a guidewire shaft, a drive member rotatably disposed within and along a longitudinal axis of the guidewire shaft, an actuator connected to a proximal end of the drive member, and an asymmetrical rotating tip attached to a distal end of the drive member. The reference teaches that the guidewire shaft may include a coiled wire and a polymeric tube formed, for example, from polyimide or heat shrinkable Teflon®. However, Milo et al. do not overcome the deficiencies of Nash et al. discussed above.

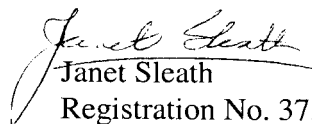
It is submitted that neither Nash et al. nor Milo et al., taken either singly or in combination, would have rendered the subject matter of claim 25 obvious to one of skill in the art at the time the present invention was made, and that the rejection of claim 25 under 35 USC §103(a) can therefore be properly withdrawn.

Concluding Remarks

Every effort has been made to put the pending claims in condition for allowance. Early reconsideration and allowance of the subject application is respectfully requested.

Should the Examiner have any further concerns regarding the subject application, she is respectfully invited to telephone Janet Sleath or Ann Speckman at 206.382.1191.

Respectfully submitted,


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